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3   ABSTRACT OF THE DISCLOSURE

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5   A system and method that provides radio field strength modeling useful for

determining cellular telephone site coverage. The system and method automate sampling

procedures, collecting data at various monitoring points within a radio propagation coverage

area. The collected data is then interpolated and spurious samples are eliminated. The

resultant radio field strength data and respective location data is then analyzed using either a

10   modified Newton second order gradient or a pseudo-exhaustive search method to modeling

the field strength for convex and non-convex models, respectively. An iterative approach is

used to facilitate the use of model constraints and to mitigate calibration errors attributable to

highly correlated variables. For pseudo-exhaustive searches, noise is introduced into the data

analysis routines to avoid convergence on local minimum which would otherwise inhibit

15   convergence towards global solutions.